

What is claimed is:

1. A system for enabling a node, adapted for use in a wireless communications network, to detect a data signal in a received signal containing noise, said system comprising:

a first correlation circuit, adapted to correlate said received signal with a first reference sequence, and output an intermediate correlated signal;

a second correlation circuit, adapted to correlate said intermediate correlated signal with a second reference sequence, and output a correlated signal;

a threshold generating circuit, adapted to generate a threshold value based on an estimation of the variance of said intermediate correlated signal over time; and

a comparison circuit, adapted to compare said correlated signal to said threshold value to determine whether said received signal includes said data signal.

2. A system as claimed in claim 1, wherein:

said threshold generating circuit includes a variance estimation circuit, adapted to average said intermediate correlated signal over a period of time and output an estimate of the variance signal; and

a scaling circuit, adapted to mathematically combine said estimate of the variance signal with a constant to output said threshold value.

3. A system as claimed in claim 2, wherein:

said scaling circuit multiplies said estimate of the variance signal with said constant to output said threshold value.

4. A system as claimed in claim 1, wherein:

said comparison circuit outputs a detection signal indicating detection of said data signal in said received signal when a level of said correlated signal is at least equal to said threshold value; and

said comparison circuit outputs a non-detection signal indicating non-detection of said data signal in said received signal when a level of said correlated signal is less than said threshold value.

5. A method for enabling a node, adapted for use in a wireless communications network, to detect a data signal in a received signal containing noise, said method comprising:

a first correlation circuit to correlate said received signal with a first reference sequence, and output an intermediate correlated signal;

a second correlation circuit to correlate said intermediate correlated signal with a second reference sequence, and output a correlated signal;

a threshold generating circuit, adapted to generate threshold value based on an estimate of the variance of said intermediate correlated signal over time; and

comparing said correlated signal to said threshold value to determine whether said received signal includes said data signal.

6. A method as claimed in claim 6, wherein said threshold generating includes:

estimating the variance of said intermediate correlated signal over a period of time and output an estimate of the variance signal; and

mathematically combining said estimate of the variance signal with a constant to output said threshold value.

7. A method as claimed in claim 7, wherein:

said mathematically combining multiplies said estimate of the variance signal with said constant to output said threshold value.

8. A method as claimed in claim 6, wherein:

said comparing outputs a detection signal indicating detection of said data signal in said received signal when a level of said correlated signal is at least equal to said threshold value; and

said comparing outputs a non-detection signal indicating non-detection of said data signal in said received signal when a level of said correlated signal is less than said threshold value.